

Claims

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1. (currently amended) A radio communication device for communicating with an ~~in which transmitted electric power is set in accordance with a transmitted electric power control bit sent to a self-station from the other station,~~ and the gain of a variable gain amplifier of a transmitting system is controlled so as to obtain the set transmitted electric power, characterized in that the radio communication device comprises said communication device comprising:

a variable gain amplifier for outputting a transmitted electric power;

a transmitted electric power setting part for receiving a transmitted electric power control bit sent from the other station, said setting part utilizing said bit for setting a set transmitted electric power;

a transmitted electric power detecting part for detecting the transmitted electric power of the self-station communication device;

an error calculating part for obtaining an error between the detected transmitted electric power of the communication device self-station and the set transmitted electric power value; and

a buffer unit for receiving said error and said
transmitted electric power setting value and for
outputting a correction signal used for
correcting the gain of the variable gain
amplifier for smoothly ~~preventing the obtained~~
~~error from greatly~~ changing the gain when the set
transmitted electric power is set to put upon the
~~change of the transmitted electric power over a~~
~~threshold value when the transmitted electric~~
~~power is controlled to cross the threshold value~~
~~as the detection limit of the transmitted~~
~~electric power of the transmitted electric power~~
~~detecting part.~~

2. (currently amended) A radio communication device
for communicating with an ~~in which transmitted electric~~
~~power is set in accordance with a transmitted electric~~
~~power control bit sent to a self-station from the other~~
~~station,~~ and the gain of a variable gain amplifier of a
~~transmitting system is controlled so as to obtain the set~~
~~transmitted electric power,~~ characterized in that the radio
~~communication device comprises~~ said communication device
comprising:

a variable gain amplifier for outputting a transmitted
electric power;

a transmitted electric power setting part for
receiving a transmitted electric power control
bit sent from the other station, said setting
part utilizing said bit for setting a set
transmitted electric power;

an electric power value/gain control signal converting part for converting the set transmitted electric power to a gain control signal of a form for controlling the gain of the variable gain amplifier;

a transmitted electric power detecting part for detecting the transmitted electric power of the ~~self-station~~ communication device;

an error calculating part for comparing the detected transmitted electric power with the gain control signal to calculate an error ~~between them~~;

a transmitted electric power deciding part for ~~deciding a large or a small value relative to the threshold value of whether~~ the set transmitted electric power is above or below a threshold value;

an error integrating part that determines ~~can switch~~ whether ~~or not~~ the calculated error is integrated in accordance with the decided result of whether ~~the large or the small value relative to the threshold value of the set~~ transmitted electric power is above or below the threshold value; and

an adding part for adding the integrated result to the gain control signal for obtaining a result for ~~and~~ controlling the gain of the variable gain amplifier ~~by an obtained adding signal~~.

3. (currently amended) A radio communication device in which transmitted electric power is set in accordance with a transmitted electric power control bit sent to the device

~~a self-station~~ from an ~~the~~ other station and the gain of a variable gain amplifier of a transmitting system is controlled so as to obtain the set transmitted electric power, characterized in that the radio communication device comprises:

- a transmitted electric power detecting part for detecting the transmitted electric power of the ~~self-station~~ device;
- an error calculating part for comparing the value of the detected transmitted electric power with the set transmitted electric power to calculate an error;
- a transmitted electric power deciding part for deciding whether ~~a large or a small value relative to the threshold value~~ of the set transmitted electric power is above or below a threshold value;
- a switch part for selecting and outputting any one of the calculated error and a ~~below-described~~ gain control correction value in accordance with the decided result of whether ~~the large or the small value relative to the threshold value~~ of the set transmitted electric power is above or below the threshold value;
- an error deciding part for deciding whether or not an input signal from the switch part is located within a tolerance to output a correction value corresponding to the decided result;

an integrating part for integrating the outputted correction value and outputting an integrated result as the gain control correction value;
an adding part for adding the set transmitted electric power to the gain control correction value; and
an electric power value/gain control signal converting part for converting the added result to a gain control signal of a form for controlling the gain of the variable gain amplifier and outputting the gain control signal to the variable gain amplifier.

4. (currently amended) A radio communication device in which transmitted electric power is set in accordance with a transmitted electric power control bit sent to ~~a self-station~~ the device from ~~the~~ an other station and the gain of a variable gain amplifier of a transmitting system is controlled so as to obtain the set transmitted electric power, characterized in that the radio communication device comprises:

a transmitted electric power detecting part for detecting the transmitted electric power of the ~~self-station~~ device;
an error calculating part for comparing the value of the detected transmitted electric power with the set transmitted electric power to calculate an error;
a transmitted electric power deciding part for deciding ~~a large or a small value relative to the~~ whether the set transmitted electric power is

~~above or below the threshold value of the set
transmitted electric power;~~

a switch part for selecting and outputting any one of
the calculated error and a ~~below-described~~ gain
control correction value in accordance with the
decided result of ~~the large or the small value~~
relative to whether the set transmitted electric
power is above or below the threshold value of
~~the set transmitted electric power;~~

an error deciding part for deciding whether or not an
input signal from the switch part is located
within a tolerance to output a correction value
corresponding to the decided result;

an integrating part for integrating the outputted
correction value to output the gain control
correction value;

a first electric power value/gain control signal
converting part for converting the gain control
correction value to a gain control correction
signal of a form for controlling the gain of the
variable gain amplifier;

a second electric power value/gain control signal
converting part for converting the set
transmitted electric power to a gain control
signal of a form for controlling the gain of the
variable gain amplifier; and

an adding part for adding the gain control signal to
the gain control correction signal and
controlling the gain of the variable gain
amplifier by an obtained adding signal.

5. (currently amended) A radio communication device in which transmitted electric power is set in accordance with a transmitted electric power control bit sent to ~~a self-station~~ the device from ~~an~~ the other station and the gain of a variable gain amplifier of a transmitting system is controlled so as to obtain the set transmitted electric power, characterized in that the radio communication device comprises:

- a transmitted electric power detecting part for detecting the transmitted electric power of the ~~self-station~~ device;
- an error calculating part for comparing the value of the detected transmitted electric power with the set transmitted electric power to calculate an error;
- a transmitted electric power deciding part for deciding whether the set transmitted electric power is above or below a ~~a large or a small value relative to the threshold value of the set transmitted electric power~~;
- a switch part for selecting and outputting any one of the calculated error and a ~~below-described~~ gain control correction value in accordance with the decided result of ~~the large or the small value relative to~~ whether the set transmitted electric power is above or below the threshold value ~~of the set transmitted electric power~~;
- an error deciding part for deciding whether or not an input signal from the switch part is located

within a tolerance and outputting a correction value corresponding to the decided result;

an integrating part for integrating the outputted correction value to output the gain control correction value;

an adding part for adding the set transmitted electric power to the gain control correction value;

first and second electric power value/gain control signal converting parts for converting the added result to a gain control signal for controlling the gain of the variable gain amplifier; and

a set value deciding part after correction for deciding by which of the first and second electric value/gain control signal converting parts the added result is converted to the gain control signal in accordance with the decided result of whether the set transmitted electric power is above or below large or the small value relative to the threshold value for deciding the level of the set transmitted electric power.

6. (currently amended) A radio communication device according to any one of claims 2 to 5, ~~characterized in that wherein an~~ the on/off control of the transmitted electric power detecting part or the error calculating part is carried out in accordance with the decided result of the large value or the small value relative to whether the set transmitted electric power is above or below the threshold value. ~~of the transmitted electric power of the transmitted electric power deciding part.~~

7. (currently amended) A radio communication device according to any one of claims 1 to 5, ~~characterized in that~~ wherein the transmitted electric power deciding part can change ~~the~~ an output timing of the decided result.

8. (currently amended) A radio communication device according to any one of claims 1 to 5, ~~characterized in that~~ wherein the transmitted electric power deciding part can change ~~the~~ an output update cycle of the decided result.

9. (currently amended) A radio communication device according to any one of claims 1 to 5, ~~characterized in that~~ wherein the transmitted electric power deciding part can change the threshold value.

10. (currently amended) A radio communication device according to any one of claims 2 to 5, ~~characterized in that~~ wherein the electric power value/gain control signal converting part has a ramping output function to the gain control signal.

11. (currently amended) A radio communication device according to any one of claims 2 to 5, ~~characterized in that~~ wherein the electric power value/gain control signal converting part can select a ~~the~~ presence or absence of a ramping output to the gain control signal.

12. (currently amended) A radio communication device according to any one of claims 3 to 5, ~~characterized in that~~ wherein the error deciding part changes the output value of the correction value.

13. (currently amended) A radio communication device according to any one of claims 3 to 5, ~~characterized in that~~ wherein the error deciding part can change the tolerance.

14. (currently amended) A radio communication device according to any one of claims 3 to 5, ~~characterized in that~~ wherein the error deciding part can change an the output update cycle of the correction value.

15. (currently amended) A radio communication device according to any one of claims 2 to 5, ~~characterized in that~~ wherein the error calculating part can change an the output update cycle of the error.

16. (original) A radio communication device according to claim 5, wherein the set value deciding part after correction can change the threshold for deciding the level of the set transmitted electric power.

17. (currently amended) A radio communication device according to claim 5, ~~characterized in that~~ wherein the set value deciding part after correction can change ~~the~~ an output update cycle of the decided result.

18. (new) A radio communication device for communicating with an other station said communication device comprising:

a variable gain amplifier for outputting a transmitted electric power;

a transmitted electric power setting part for receiving a transmitted electric power control

bit sent from the other station, said setting part utilizing said bit for setting a set transmitted electric power;

a transmitted electric power detecting part for detecting the transmitted electric power of the communication device;

an error calculating part for comparing the value of the detected transmitted electric power with the set transmitted electric power to calculate an error;

a transmitted electric power deciding part for deciding whether the set transmitted electric power is above or below a threshold value;

a switch part for selecting and outputting any one of the calculated error and a gain control correction value in accordance with the decided result of whether the set transmitted electric power is above or below the threshold value;

an error deciding part for deciding whether an input signal from the switch part is located within a tolerance for deciding whether to output a correction value corresponding to whether the input signal is located within the tolerance;

an integrating part for integrating the outputted correction value and outputting an integrated result as a gain control correction value;

an adding part for adding the set transmitted electric power to the gain control correction value; and

an electric power value/gain control signal converting part for converting the added result to a gain control signal of a form for controlling the gain of the variable gain amplifier and for outputting the gain control signal to the variable gain amplifier.

19. (new) A radio communication device for communicating with an other station said communication device comprising:

- a variable gain amplifier for outputting a transmitted electric power;

- a transmitted electric power setting part for receiving a transmitted electric power control bit sent from the other station, said setting part utilizing said bit for setting a set transmitted electric power;

- a transmitted electric power detecting part for detecting the transmitted electric power of the communication device;

- an error calculating part for comparing the value of the detected transmitted electric power with the set transmitted electric power to calculate an error;

- a transmitted electric power deciding part for deciding whether the set transmitted electric power is above or below a threshold value;

- a switch part for selecting and outputting any one of the calculated error and a gain control correction value in accordance with the decided

result of whether the set transmitted electric power is above or below the threshold value;

an error deciding part for deciding whether an input signal from the switch part is located within a tolerance for deciding whether to output a correction value corresponding to the decided result of whether the input signal is located within the tolerance;

an integrating part for integrating the outputted correction value to output a gain control correction value;

a first electric power value/gain control signal converting part for converting the gain control correction value to a gain control correction signal of a form for controlling the gain of the variable gain amplifier;

a second electric power value/gain control signal converting part for converting the set transmitted electric power to a gain control signal of a form for controlling the gain of the variable gain amplifier; and

an adding part for adding the gain control signal to the gain control correction signal and for obtaining a result for controlling the gain of the variable gain amplifier.

20. (new) A radio communication device for communicating with an other station said communication device comprising:

a variable gain amplifier for outputting a transmitted electric power;

a transmitted electric power setting part for receiving a transmitted electric power control bit sent from the other station, said setting part utilizing said bit for setting a set transmitted electric power;

a transmitted electric power detecting part for detecting the transmitted electric power of the communication device;

an error calculating part for comparing the value of the detected transmitted electric power with the set transmitted electric power to calculate an error;

a transmitted electric power deciding part for deciding whether the set transmitted electric power is above or below a threshold value;

a switch part for selecting and outputting any one of the calculated error and a gain control correction value in accordance with the decided result of whether the set transmitted electric power is above or below the threshold value;

an error deciding part for deciding whether an input signal from the switch part is located within a tolerance and for outputting a correction value corresponding to whether the input signal is within the tolerance;

an integrating part for integrating the outputted correction value to output a gain control correction value;

an adding part for adding the set transmitted electric power to the gain control correction value;

first and second electric power value/gain control signal converting parts for converting the added result to a gain control signal for controlling the gain of the variable gain amplifier; and

a set value deciding part after correction for deciding by which of the first and second electric value/gain control signal converting parts the added result is converted to the gain control signal in accordance with the decided result of whether the set transmitted electric power is above or below the threshold value.